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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/578,240   | 01/17/2007  | Young-Soo Kim        | U 016284-4          | 6732             |
| 140  | 7590        | 03/26/2010           | EXAMINER            |                  |
| LADAS & PARRY LLP<br>26 WEST 61ST STREET<br>NEW YORK, NY 10023 |             |                      | EUSTAQUIO, CAL J    |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

nyuspactions@ladas.com

|                              |                                      |                                       |
|------------------------------|--------------------------------------|---------------------------------------|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/578,240 | <b>Applicant(s)</b><br>KIM, YOUNG-SOO |
|                              | <b>Examiner</b><br>CAL EUSTAQUIO     | <b>Art Unit</b><br>2612               |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 1/17/2007.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-5 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 05 January 2010 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application  
6) Other: \_\_\_\_\_

**DETAILED ACTION**

**Claim Status**

1. **Claims 1-5** are presented for examination.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

  

3. **Claims 1 and 4** are rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424.
  - a) **As to claim 1**, Herweck discloses the claimed: A remote-controllable power control apparatus, comprising: a remote controller (1) provided with keys connected to a plug (2) in a wireless manner (Fig. 1, remote 20 uses code as shown in col 3, lines 15-26 and col. 6, lines 50-67) and the control means (3) comprising a wireless transmitting unit (31) and a wireless receiving unit (32) for communicating wireless data with the

remote controller (1) (FIG. 1, remote 20 and receiver rx 12), a memory (35) for storing therein registered code information of the remote controller (1) (col 3, lines 15-26 discloses using code while lines 47-57 discloses using two position switches to memorize user selected code sequences. The switches are a rudimentary form of memory. The codes are used to confirm the identity of a user using the above remote 20 and upon verification, controls the power circuit line as disclosed in col. 3, lines 5-12).

i. **Except for the claimed:**

- 1) to set an operating time of an electronic appliance to transmit setting information for the operating time to control means (3);
- 2) the remote controller (1) comprising a display unit (12) and a signal tone generating unit (13) for visually and aurally informing a user of power control information transmitted from the control means (3);
- 3) preset operating time information transmitted from the remote controller (1);
- 4) a clock generating unit (36) for generating clock signals at regular periods,
- 5) a direct current (DC) power unit (38) for converting an alternating current (AC) power input to the plug (2) into a Direct Current (DC) power and supplying the DC power as an internal drive power,
- 6) a second MPU (42) for performing real-time counting using the clock signals generated by the clock generating unit (36) and outputting a control

signal to shut off the power when a counted value is identical with the preset operating time transmitted from the remote controller (1) and stored in the memory (35),

- 7) a power control unit (40) for controlling a transistor (Q1) to be turned on/off in response to the control signal output from the second MPU (42), and the transistor (Q1) turned on/off in response to a control signal output from the power control unit (40) to turn off a relay switch (41) connected to a power line at one end of the plug (2),
- 8) the control means (3) controlling the electronic appliance to be automatically turned off after the electronic appliance is operated for the preset operating time transmitted from the remote controller (1).

- ii. **As to the claimed:** to set an operating time of an electronic appliance to transmit setting information for the operating time to control means (3), Herweck discloses controlling the on and off state or power to a device depending on the verification of a set of codes located in a remote control designed to control power to that particular device. Herweck does not disclose setting the operating time of an electronic appliance to a control means:

- 1) In the same art of power controlling systems, Kwoh, FIG. 1 and col. 8, lines 29-30, discloses a user programming a series of settings using a remote 12, including current real time, into a VCR. Furthermore, FIG.1 and col. 5, lines 4-35 discloses a VCR keeping track of dates and times. Upon

acceptance of an allowable date and time received through a previously programmed schedule received through a command controller 36, a switch circuit is activated to allow a television to cooperate with a VCR to show televised programming, thereby teaching the known concept of using a set time controlled activation of device functions to suit the desired wants and needs of the user.

2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the remote power control switch feature of Herweck the clocked programming features disclosed in Kwoh to produce a remote controlling device that includes the capability of controlling a load based on time requirements. Herweck discloses a known feature of such a control device which could and would benefit from incorporating a well known feature of controlling a device depending on a time frame as taught by Kwoh. Such a combined device would have the advantage of turning on a load when the user is present and turning off the load when the user is not present, which would reduce unnecessary power consumption, for example.

- iii. **As to the claimed:** the remote controller (1) comprising a display unit (12) and a signal tone generating unit (13) for visually and aurally informing a user of power control information transmitted from the control means (3); the plug (2) for supplying a power to the electronic appliance; and preset operating time information transmitted from the remote controller (1); Herweck, col. 7,

lines 7-18, discloses a *receiving unit* including an LED or other visible indicator to show a user the on and off status of the power controller as the controller manages loads as previously disclosed above. Herweck doesn't disclose visible and audio indicators used at the remote itself.

- 1) In the same art of remote power controllers, Kwoh, col 9, lines 1-12, discloses a *remote controller* 1100, col 8, lines 8-12, cooperating with a VCR and controller system. Included in the remote are usages of audio prompts and displays to signal to a user when certain functions are being processed within the programmer.
- 2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the remote control disclosed in Herweck the visual and audio prompts of the remote control disclosed in Kwoh to produce a remote control capable of displaying and sounding a prompt in a manner claimed in the invention. Such a device gives the user flexibility in determining locally or remotely if a power control action has taken place without being collated next to the device being controlled.

- iv. **As to the claimed** and preset operating time information transmitted from the remote controller (1), see ii above.
- v. **As to the claimed**, a clock generating unit (36) for generating clock signals at regular periods, Herweck doesn't disclose this feature,
  - 1) In the same art of remote controllable devices, Kwoh discloses as above, a VCR receiving programming information regarding programs that

may be shown at a specific time. Furthermore, Kwoh, col 4, lines 56-60, col. 5, lines 15, and Fig. 3, discloses a clock 42 used to synchronize date and time information to allow processing of time and programming schedules when the time coincides with a proper preset time.

2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to combine the power controller disclosed in Herweck with the embodiment utilizing an internal clock, as disclosed in Kwoh, to produce a remote power controller that includes the known use of a clock function. By allowing these features to combine, a controller can turn on a device at a specified time and upon expiration of that time, shut the device off. Such a feature allows synchronization between a transmitting station and a receiving station when programming is communicated between one point to another.

vi. **As to the claimed** a direct current (DC) power unit (38) for converting an alternating current (AC) power input to the plug (2) into a Direct Current (DC) power and supplying the DC power as an internal drive power, Herweck, in col 5, lines 40-43, *while not exactly disclosing the conversion of AC to DC*, Herweck discloses the use of batteries and the use of replacing of batteries, suggesting that the internal circuitry within Herweck's disclosure operates on DC or direct current. Furthermore, Herweck discloses that power from the line cord is used to power the on-board circuitry as opposed to batteries.

- 1) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include a feature of converting AC to DC and utilizing this feature in the disclosed circuitry of Herweck. Such a system, as disclosed above in Herweck, disposes the need for changing out batteries which if otherwise needed, would incur unnecessary costs.
- vii. **As to the claimed** the control means (3) controlling the electronic appliance to be automatically turned off after the electronic appliance is operated for the preset operating time transmitted from the remote controller (1). See v. above.
- viii. **As to the claimed**, a second MPU (42) for performing real-time counting using the clock signals generated by the clock generating unit (36) and outputting a control signal to shut off the power when a counted value is identical with the preset operating time transmitted from the remote controller (1) and stored in the memory (35), while the limitations addressing the claimed "counted value" and "memory" has been disclosed above in viii, Herweck, col 3, lines 58-66, discloses a rudimentary logic circuit that responds to an external remote coded signal that acts as a simple processing circuit. However, Herweck does not disclose an MPU. In the same art of remote controllable devices, Kwoh, Fig. 3 and col 4, lines 50-55, discloses at least two different microprocessors: microprocessor 50 and micro controller 60, each providing the remote control system with different sets of controls with at least one processor 50 used to perform parental controls, including allowing programming to be viewed at a specific time.

- 1) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into Herweck the multiple microprocessor system disclosed in Kwoh to meet the claimed limitations. The use of using multiple processors is not new in the art and it would have been obvious for one of ordinary skill in the art to incorporate this idea to aid in faster processing of the claimed different operations.
- ix. **As to the claimed** a power control unit (40) for controlling a transistor (Q1) to be turned on/off in response to the control signal output from the second MPU (42), and the transistor (Q1) turned on/off in response to a control signal output from the power control unit (40) to turn off a relay switch (41) connected to a power line at one end of the plug (2), Herweck discloses, on col. 4, lines 20-29, using relay 39 to enable and disable the line voltages going through 50 but doesn't disclose a transistor driving the relay.
  - 1) In the same art of power controlling devices, Hansen, col.7, lines 22-31 and FIG. 2B, especially at elements Q4 transistor and MR relay, discloses the use of a transistor driving the coil of a relay. The relay serves to couple load voltages to a load.
  - 2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the combination of Herweck and Kwoh the transistor driven relay circuit disclosed in Hansen to produce the claimed invention. Such a circuit has the advantage of using a low voltage and low current control device to drive a higher current and high voltage

handing device such as the relay so more power can be controllable using a small control device while maintaining isolation between the controlled circuit and the controller circuit.

x. **As to claim 4**, Herweck, in the combination of Herweck, Kwoh, and Hansen, in **claim 1** above, discloses the claimed: The remote-controllable time-based power control apparatus according to **claim 1**, wherein the control means (3) transmits the ON/OFF status information of the power to the remote controller (1) in a wireless manner, thus allowing the user to monitor the information through the display unit (12) of the remote controller (1).

1) **Except for the claimed:** wherein the control means (3) transmits the remaining operating time of the power plug (2). As previously disclosed above in **claim 1** in the combination of Herweck, Kwoh, and Hansen, a VCR has received a programming schedule to allow its cooperation with a television to show scheduled televised programs at a requisite time.

2) Furthermore, in the same art of remote controlled devices, Kwoh, col 7, lines 34-41, discloses scheduled programming being displayed for viewing for a user.

3) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to further include into the combination of Herweck, Kwoh, and Hansen a feature of displaying to a user the available programming that includes the times and dates of the programs in which a user may derive the time remaining for allowable programming, and

therefore, the time remaining for power supplied to a load. Making a determination of how long a program will last as well how much time is remaining based on reading the displayed schedule is a procedure known to one of ordinary skill in the art who would have a reasonable degree of success performing.

4. **Claim 2** is rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424 and James, 6,046,549.
  - i. **As to claim 2**, Herweck, as in the combination of Herweck, Kwoh, and Hansen, in **claim 1**, discloses the limitation: "and counts an actual operating time using the clock signals generated by the clock generating unit (36)." As to the limitation, " on an output side of the relay switch (41)," also see **claim 1** above.
    - 1) **Except for the claimed:** The remote-controllable time-based power control apparatus according to **claim 1**, wherein: the control means (3) further comprises a load detecting unit (39) to detect a load due to the operation of the electronic appliance; and the second MPU (42) recognizes that the electronic appliance is operated only when the load detecting unit (39) detects a load. Neither Herweck, Kwoh, nor Hansen disclose these features.
    - 2) In the same art of load control and monitoring, James, col. 5, lines 60-67 and col. 6, lines 1-11, discloses a load control circuit which regulates the

loads connected to its circuit. When a load demand is detected in the form of an increased current demand, full voltage is applied to the load.

3) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the combination of Herweck, Kwoh, and Hansen an additional feature of a power controller demand scheme found in James to produce a remote power control system that include the capability of responding to load demands. Such a system would have the advantage of enabling the system only when the load is switch on, which saves power in the event that when the user does not desire to watch scheduled programming.

5. **Claim 3** is rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424, and Hubbard, 6,046,549

- i. **As to claim 3**, Herweck discloses except for the claimed: the remote-controllable time-based power control apparatus according to **claim 1**, wherein: the control means (3) further comprises a low voltage detecting unit (37) for detecting an abnormal fluctuation in the power input to the plug (2) and providing the detected results to the second MPU (42); and the second MPU (42) is reset after storing a value, obtained by counting an actual operating time until a voltage fluctuation signal is input from the low voltage detecting unit (37), in the memory (36), and then continuously counts the remaining operating time on the basis of the operating time counting value stored in the memory (35) after reset. The combination of Herweck, Kwoh, and

Hansen, discloses as in **claim 1**, the use of two MPUs. However, Herweck, Kwoh, and Hansen does not disclose the claimed “detection of an abnormal power fluctuation” of the voltage applied to the load and “storing a value” while “counting an actual operating time until a voltage fluctuation signal is input from the low voltage detecting unit,” and “then continuously counts the remaining operating time.”

- 1) In the same art of power monitoring, Hubbard, in col. 2, lines 62-67, and col. 8, lines 1-5, discloses low voltage events being recorded under an embodiment outlined in col. 28, lines 1-32.
- 2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the combination of Herweck, Kwoh, and Hansen the low voltage/power quality logging scheme disclosed in Hubbard to produce a system that includes recording an abnormal voltage event present at a load. The claimed “ a low voltage detecting unit (37) for detecting an abnormal fluctuation in the power input to the plug (2) and providing the detected results to the second MPU (42); and the second MPU (42) is reset after storing a value, obtained by counting an actual operating time until a voltage fluctuation signal is input from the low voltage detecting unit (37), in the memory (36), and then continuously counts the remaining operating time on the basis of the operating time counting value stored in the memory (35) after reset” is met because the combination of Herweck, Kwoh, and Hansen disclosed the input of scheduled

programming as in **claim 1**, including the determination of times defined in the above combination. The claimed "resetting" is interpreted to be the time the power fluctuation event was sensed and recorded while the operating times recorded before and after the event are the scheduled programming times. Such a system would allow a user to determine, from the recorded event log, power quality or equipment malfunctions or failures related to the power quality event and to take corrective action that would prevent damage from the same.

6. **Claim 5** is rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424 and Yoda, U.S. 3,969,886.
  - i. **As to claim 5**, Herweck discloses except for the claimed: The remote-controllable time-based power control apparatus according to **claim 1**, wherein the control means (3) transmits a predetermined alarm signal to the remote controller (1) when the remaining operating time is less than a predetermined time, thus outputting an alarm through the signal tone generating unit (13) of the remote controller (1). Although the combination of Herweck, Kwoh, and Hansen discloses, as in **claim 1**, a feature of displaying to a user a programming schedule, the combination fails to disclose a warning or alarm made to a user that a predetermined remaining operating time threshold has been reached.
    - 1) In the same art of timed operations, Yoda, col. 7. lines 12-24 and col. 1, lines 6-27, discloses a digital timing circuit which forewarns a user, though

the use of an LCD display and audio alarming, such as a bell or buzzer, that a predetermined time has been reached and indicates the remaining time available until a period ends.

2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include the feature of a predetermined time warning system, as disclosed in Yoda, and apply this feature to the combination of Herweck, Kwoh, and Hansen which would produce a remote power controller system capable of warning a user when a timed operation is about to end. Such a feature, as disclosed in Yoda above, would allow a user to keep to a schedule by having an advantage of knowing how much time is left to spend towards a timed task.

### **Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are as follows:

U.S. Publication to Deak, US 20040174287, entitled "Self Contained Switch," which discloses a self-contained switch wherein an energy generating means that is either electromagnetic or piezoelectric, supplies power to the switch and to the circuitry so that the switch can control other appliances on a remote control switch.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAL EUSTAQUIO whose telephone number is (571)270-7229. The examiner can normally be reached on 8am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin C. Lee, can be reached

at (571) 272-2963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. E./

Examiner, Art Unit 2612

/BENJAMIN C. LEE/

Supervisory Patent Examiner, Art Unit 2612